

REMARKS

The above-identified patent application has been amended and Applicants respectfully request the Examiner to reconsider and again examine the claims as amended.

Claims 1-22 and 24-38 are pending in the application. Claims 6-9, 14, and 18-22 are objected to. Claims 1-5, 10-13, 15-17, and 24-36 are rejected. Claims 1, 3-6, 8, 10-22, and 24-34 are amended herein to improve clarity and not for reasons of patentability as will be apparent. Claim 23 was previously canceled. Claims 37 and 38 are new.

Applicant's attorney would like to thank Examiner Lieu for the courtesy extended to Applicant's attorney during a telephone call on October 24, 2005. In the telephone call, a variety of typographical errors made in an Office Action dated August 9, 2005 were discussed, and the Examiner agreed to issue a new Office action, restarting the time for response. Applicant's attorney does not believe that the telephone call constituted a "telephone interview," however, an Interview Summary was attached to the present Office Action by the Examiner, to which Applicants respond herein.

As an initial matter, Applicants cannot identify that certain signed and initialed information disclosure forms (PTO Form 1449 or SB08) have been returned as identified below. Applicants respectfully request that the Examiner consider the art cited in the below-identified information disclosure statements (if not already done) and provide the signed and initialed information disclosure forms as indicated.

- 1) Submitted with certificate of mailing dated October 22, 2001
- 2) Electronically submitted on September 29, 2005.

The Rejections under 35 U.S.C. §103(a)

In View of Nasburg

The Examiner rejects Claims 1-5, 10-13, 15-17, 24-28, 30, 31, 33, and 35 under 35 U.S.C. §103(a) as being unpatentable over Nasburg (U.S. Patent number 5,696,503). With regard

to independent Claim 30, the Examiner recognizes that Nasburg does not teach the claimed "...count of overdue vehicles and early arriving vehicles." Nevertheless, the Examiner concludes that "...the reference implicitly suggests such feature since [the] system measure[s] the link time of all vehicles and origin/destination pairs of the vehicles." Applicants respectfully disagree.

As the Examiner is aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...the prior art reference (or prior art references when combined) must teach or suggest all the claim limitations." As the Examiner is also aware, and as found in MPEP §2142, in order to establish a prima facie case of obviousness "...there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings." Applicants respectfully submit that the Examiner has not met the above burdens in order to establish prima facie obviousness.

Applicants submit that Claim 30 is patentably distinct over Nasburg, since the cited reference neither describes nor suggests "... a correlation processor, wherein said uniquely identified data are correlated to obtain at least one of a count of overdue vehicles or a count of early arriving vehicles...," as set forth in Claim 30.

With this arrangement, the present invention provides indirect detection of a roadway incident, for example, an accident. The claimed invention does not directly detect the incident, but instead depends upon characteristics of vehicles upon a roadway in order to provide the incident detection.

The Examiner uses Nasburg at column 4, lines 35-55 to implicitly teach the claimed count of overdue vehicles or the claimed count of early arriving vehicles. Nasburg describes at column 4, lines 40-46 "...vehicle footprints and detection information from multiple sensors are used to provide:..2. link time (the time it takes for a vehicle to travel from one sensor to another), 3. origin/destination pair measurements across an urban network, [and] 4. rapid detection and characterization of incidents in the network... ."

With the Examiner's above conclusion, i.e., that Nasburg *implicitly* teaches the claimed count of overdue vehicles or the claimed count of early arriving vehicles the Examiner attempts to assign a use of the "link time" of Nasburg to generate the claimed the count of overdue vehicles or a count of early arriving vehicles. However, Applicants submit that Nasburg uses the "link time" in an entirely different way and does not describe or suggest the count of overdue vehicles or the count of early arriving vehicles of the claimed invention. Nasburg teaches, for example, at column 8, lines 23-27 that "[i]nformation communicated by the top MATS layer 140 to the bottom MATS layer 130 includes estimated average flows into each sensor's FOV and the velocity profiles on the roadway links between a particular sensor and any adjacent sensors." [emphasis added] As best understood by the Applicants, Nasburg contemplates using the "link time" of a plurality of vehicles to compute an average traffic flow (e.g., vehicles per minute) at a sensor along a roadway, and to compute a velocity profile (e.g., average velocity versus time) at a sensor along the roadway. Nasburg does not contemplate the count of overdue vehicles or a count of early arriving vehicles of the claimed invention.

Nasburg also describes at column 15, lines 24-44, that a database includes "[p]redicted time of arrival within sensor FOV...[and] [f]low information (velocity, acceleration) for this vehicle..." Again, Nasburg does not contemplate the count of overdue vehicles or a count of early arriving vehicles of the claimed invention.

It should be understood that Nasburg describes a "wide area traffic surveillance using multisensor tracking system." (title) As described in the abstract, "...the system derives traffic behavior on a local basis, across roadway links, and in section of the network." Thus, the system of Nasburg can characterize traffic patterns in a wide area of roadways.

Nasburg describes incident detection as but one of a variety of functions of his system. In order to provide incident detection, Nasburg appears to rely only upon techniques, which he describes to be conventional. For example, at column 29, lines 24-27, Nasburg describes "...a detect traffic incidents process 2030 may detect flow disruptions or traffic incidents upon the

link. The signal processing literature contains many well known algorithms well suited to implement the functions of the detect traffic incident process 2030.” Thus, in order to provide incident detection, Nasburg relies on conventional techniques, which are not explained by Nasburg, and which do not use the claimed count of overdue vehicles or the count of early arriving vehicles.

Applicants submit that Claim 30 is further patentably distinct over Nasburg, since the cited reference neither describes nor suggests “...an incident detection processor coupled to the correlation processor and adapted to compare at least one of the count of overdue vehicles to a first sample threshold or the count of early arriving vehicles to a second sample threshold...,” as set forth in Claim 30. As described above, Nasburg does not contemplate the count of overdue vehicles or the count of early arriving vehicles. Therefore, Nasburg cannot contemplate comparing either of these counts to respective thresholds.

Claims 31, 33, and 35 depend from and thus include the limitations of Claim 30. Thus, Applicants submit that Claims 31, 33, and 35 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 30.

For substantially the same reasons discussed above in conjunction with Claim 30, Applicants submit that Claim 1 is patentably distinct over Nasburg, since the cited reference neither describes nor suggests “...determining the number of vehicles potentially affected the incident along the roadway; and comparing the number of vehicles potentially affected by the incident to a sample threshold...,” as set forth in Claim 1.

Claims 2-5, 10-13, 15-17, and 24-26 depend from and thus include the limitations of Claim 1. Thus, Applicants submit that Claims 2-5, 10-13, 15-17, and 24-26 are patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 1.

For substantially the same reasons discussed above in conjunction with Claim 30, Applicants submit that Claim 27 is patentably distinct over Nasburg, since the cited reference neither describes nor suggests "...correlating transponder readings from each one of the plurality of vehicles with expected readings associated with each one of the plurality of vehicles at more than one traffic probe reader to obtain at least one of a count of overdue vehicles or a count of early arriving vehicles...," as set forth in Claim 27.

Claim 28 depends from and thus includes the limitations of Claim 27. Thus, Applicants submit that Claim 28 is patentably distinct over the cited reference at least for the reasons discussed above in conjunction with Claim 27.

In view of the above, Applicants submit that Claims 1-5, 10-13, 15-17, 24-28, 30, 31, 33, and 35 are patentably distinct over Nasburg.

In View of Nasburg, Hassett et al., and Dwyer et al.

The Examiner rejects Claim 29 under 35 U.S.C. §103(a) as being unpatentable over Nasburg in view of Hassett et al. (U.S. Patent number 5,289,183) and further in view of Dwyer et al. (U.S. Patent number 6,140,941). The Examiner relies upon Hassett et al. to teach the claimed "arranging a plurality of toll gateways at intervals along a roadway." The Examiner recognizes that Nasburg and Hassett et al. do not teach the claimed "...determining the presence of vehicles not having a transponder ID." The Examiner uses Dwyer et al. at column 4, lines 10-28 to teach this feature.

For substantially the same reasons discussed above in conjunction with Claim 27, Applicants submit that Claim 29 is patentably distinct over Nasburg, since the cited reference neither describes nor suggests "...correlating transponder readings from each one of the plurality of vehicles with expected readings associated with each one of the plurality of vehicles at more than one traffic probe reader to obtain at least one of a count of overdue vehicles or a count of early arriving vehicles...," as set forth in Claim 27 and as required by Claim 29.

Furthermore, Applicants submit that there is no suggestion in any of the cited references to make the combinations suggested by the Examiner. In essence, Nasburg does not contemplate and has no reason to use the toll gateways of Hassett et al. As described above, Nasburg is directed to a system for wide area traffic surveillance, not to a system for collecting tolls. Also, Nasburg does not contemplate and has no reason to identify vehicles not having a transponder as in Dwyer et al.

In view of the above, Applicants submit that Claim 29 is patentably distinct over Nasburg in view of Hassett et al. and Dwyer et al.

In view of the above, Applicants submit that the rejection of Claims 1-5, 10-13, 15-17, 24-29, 30, 31, 33, and 35 under 35 U.S.C. §103(a) should be removed.

Claims 37 and 38 are new in the application. Consideration of new Claims 37 and 38 is respectfully requested.

The Claim Objections

The Examiner objects to Claims 6-9, 14, and 18-22 as being dependent upon a rejected base claim, but indicates that Claims 6-9, 14, and 18-22 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim.

For the above reasons, Applicants submit that independent Claim 1, from which Claims 6-9, 14, and 18-22 depend, is patentably distinct over the cited references. Therefore, Applicants submit that Claims 6-9, 14, and 18-22 are allowable in their present dependent form.

In view of the above Amendment and Remarks, Applicants submit that Claims 1-22 and 24-38 and the entire case are in condition for allowance and should be sent to issue and such action is respectfully requested.

The Examiner is respectfully invited to telephone the undersigning attorney if there are any questions regarding this Amendment or this application.

The Assistant Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 500845, including but not limited to, any charges for extensions of time under 37 C.F.R. §1.136.

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Respectfully submitted,

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